

WHAT IS CLAIMED IS:

1. A turbo code encoder comprising:

a first convolutional encoder for receiving bits to be encoded, generating a systematic bit and a first parity bit, and outputting them;

5 an interleaver for receiving the bits to be encoded, in parallel with the first convolutional encoder, and interleaving the received bits;

a second convolutional encoder for receiving the interleaved bits from the interleaver and generating a second parity bit; and

10 a repeater for repeatedly outputting predefined bits among the bits output from the first and second convolution encoders.

2. The turbo code encoder as claimed in claim 1, wherein the repeater repeatedly outputs the systematic bit.

15 3. The turbo code encoder as claimed in claim 2, wherein the repeater outputs signals in the order of the systematic bit, the first parity bit, the systematic bit, and the second parity bit.

20 4. The turbo code encoder as claimed in claim 1, wherein the repeater repeatedly outputs the first parity bit.

5. The turbo code encoder as claimed in claim 1, wherein the repeater repeatedly outputs the second parity bit.

6. A code rate decreasing method of a turbo code encoder, comprising:
(a) receiving bits to be encoded, and generating a systematic bit and a first parity bit;
5 (b) receiving the bits to be encoded, and interleaving the received bits;
(c) receiving the interleaved bits and generating a second parity bit;
and
(d) repeatedly outputting predefined bits among the bits output from the steps (a) and (c).

7. The code rate decreasing method as claimed in claim 6, wherein the step (d) comprises repeating the systematic bit and outputting data in the order of the systematic bit, the first parity bit, the systematic bit, and the second parity bit.

8. The code rate decreasing method as claimed in claim 6, wherein the step (d) comprises repeatedly outputting the first parity bit among the bits output from the steps (a) and (c) .

9. The code rate decreasing method as claimed in claim 6, wherein the step (d) comprises repeatedly outputting the systematic bit and the first parity bit and reducing the code rate through puncturing, when the code rate is less than 1/4.